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EXAMINER

HAILE, FEBEN

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2416

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

As to claims 1 and 6:

Sawdey discloses a multiplexer forming multiple channel routing, i.e. re configurable multiplexer, comprising a manifold with a connecting filter. With respect to figure 4, a connecting filter 62 is separated into parts by a transverse wall 88, with each part including a cavity 84 and 86. Furthermore, on page 3 paragraph 0020, Sawdey teaches that each of the cavities 84 and 86 support two orthogonal modes of vibration of electromagnetic wave such that a coupling aperture communicates the energy between the dual modes. The Examiner acknowledges that Sawdey fails to explicitly suggest the method of selectively connecting either to a corresponding covering for short circuit purposes or to a respective filter tail in order to provide full filter functionality, thus Tsunoda is relied upon to teach this feature. However, the Applicant respectfully traverses that Tsunoda does not suggest this claimed feature. The Examiner respectfully disagrees. Tsunoda discloses a filtering device constructed such that the different ends can be switched between open-circuited and short-circuited. It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the method suggested by Tsunoda into the filter supporting dual modes of operation taught by Sawdey. The motivation for such a modification is an improved filtering device in a form with a reduced size at a low cost without having to use conventional circuit elements. Therefore, as the claims are reasonably interpreted in their broadest sense, the Examiner believes the combination of Sawdey and Tsunoda indeed does render the Applicant's invention obvious.

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As to claims 12 and 16:

Sawdey is already discussed above. It is respectfully traversed that in Langer, the separating filter unit 10 and the expansion unit 13 do not correspond to the filter head and filter tail of a channel filter as claimed by the Applicant. The Examiner respectfully disagrees. Langer is relied upon for the teaching of adding a covering plate that is removable to a filtering head for short circuit purposes, i.e. a filtering unit 10 is terminated with a short circuit that can be removed, and replaced by a filter tail, i.e. the short circuit is replaced by an expansion unit. It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the method suggested by Langer into the filter supporting dual modes of operation taught by Sawdey. The motivation for such a modification is avoiding undesirable high insertion losses. Therefore, as the claims are reasonably interpreted in their broadest sense, the Examiner believes the combination of Sawdey and Langer indeed does render the Applicant's invention obvious.

As to claims 1, 6, 12, and 16:

The Applicant respectfully traverses that in addition to a filter with first and second cavities, there is a filter head having a resonant cavity, thus to satisfy the claims there must be a minimum of three cavities. The Examiner respectfully disagrees with Applicant's interpretation of the claim language. For example, claim 1 reads "...at least one filter comprising *a first resonant cavity and a further resonant cavity*, and at least

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one filter head having only a single resonant cavity which is the same as the first resonant cavity of said at least one filter...". Therefore it is clear to the Examiner that there is only a total of two cavities in the filter, with one being in the filter head. Therefore, as the claims are reasonably interpreted in their broadest sense, as can be seen from the discussion above, the Examiner believes that Sawdey indeed does disclose this claimed feature.

/Aung S. Moe/

Supervisory Patent Examiner, Art Unit 2416